

## CLAIMS:

1. Pyrogenically produced oxides of metals or metalloids which oxides are doped by means of aerosol with potassium, characterized in that the base component is an oxide that is pyrogenically produced in the manner of flame oxidation or preferably of flame hydrolysis and was doped with potassium from 0.000001 to 20 % by wt. and in that the doping amount is preferably in a range of 1 to 20,000 ppm, the doping component is a salt of potassium, the BET surface of the doped oxide is between 1 and 1000 m<sup>2</sup>/g and the breadth of the distribution of particle size is at least 0.7.

2. Pyrogenically produced oxides of metals or metalloids which oxides are doped by means of aerosol with potassium in accordance with claim 1, characterized in that the base component is an oxide that is pyrogenically produced in the manner of flame oxidation or preferably of flame hydrolysis and was doped with potassium from 0.000001 to 20 % by wt., that the pH of the doped, pyrogenic oxide is more than 5, measured in a 4 % aqueous dispersion, and that the BET surface of the doped oxide is between 1 and 1000 m<sup>2</sup>/g.

3. Pyrogenically produced oxides of metals or metalloids which oxides are doped by means of aerosol with potassium in accordance with claim 1, characterized in that the base component is an oxide that

is pyrogenically produced in the manner of flame oxidation or preferably of flame hydrolysis and was doped with potassium from 0.000001 to 20 % by wt., that the doping amount is preferably in a range of 1 to 20,000 ppm and the absorption of dibutylphthalate does not allow any end point to be recognized, and that the BET surface of the doped oxide is between 1 and 1000 m<sup>2</sup>/g.

4. A method of producing pyrogenic oxides doped by means of aerosol with potassium according to claim 1, characterized in that an aerosol is fed into a flame like the one used to produce pyrogenic oxides in the manner of flame oxidation or preferably of flame hydrolysis, that this aerosol is homogeneously mixed before the reaction with the gaseous mixture of flame oxidation or flame hydrolysis, then the aerosol-gaseous mixture is allowed to react in a flame and the pyrogenic, potassium-doped oxides produced are separated in a known manner from the gas flow, that a potassium salt solution containing the potassium salt serves as starting product of the aerosol and that the aerosol is produced by atomization by means of an aerosol generator preferably in accordance with the gas-atomizing [two-fluid] nozzle method.

